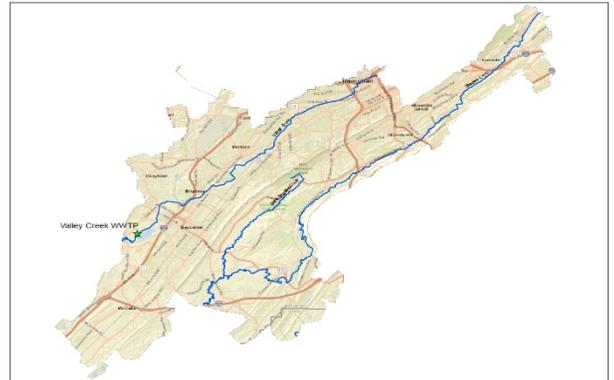




JEFFERSON COUNTY ENVIRONMENTAL SERVICES

VALLEY CREEK WATER RECLAMATION FACILITY

CONSTRUCTED: 1905 | PERMITTED AVERAGE CAPACITY: 85 MGD | PEAK FLOW CAPACITY: 170 MGD
Grade IV Facility



3923 Clear Water Dr., Bessemer, AL. 35023

Valley Creek Wastewater Treatment Plant Energy and Process Optimization Improvements (ongoing) – Expected Completion 8/2019

- Converting to a single stage plant, Reduces energy consumption, and provides some additional peak storage
- Optimizes anaerobic solids handling that will produce methane for use in the facility
- Includes critical repairs (influent pump station rehab, clarifier repair & upgrades, headworks repairs, blower upgrades, etc.)
- Electrical and Instrumentation and Controls upgrades
- Improvements of solids handling and pumping systems
- Installation of automatic septate and leachate receiving stations
- Safety improvements

Project(s) in Planning

- Sand Filter Building – Needed hydraulic improvements to bring filters into active use in anticipation of phosphorous limits on future NPDES permit. (regulatory compliance)

The original Valley Creek Water Reclamation Facility was constructed in 1905 authorized by the enabling Act 714 of 1901 which created the Jefferson County Sanitary District and Commission. The facility has gone through several major upgrades and expansions including:

- 1907: Adler & Company were contracted to operate and maintain the plant for 99 years meanwhile having access for sewage, irrigation, and manufacturing purposes.
- 1911: The contracted was amended giving the County full control due to several lawsuits against both parties for causing a nuisance through the operation of the plant
- 1934: A new screening plant was constructed with the capacity of 20 MGD with only a bar screen as the only treatment device
- 1939: The plant operation was discontinued because the plant's discharge was so contaminated by industrial sewage and waste
- 1953: Improvements were completed and the upgraded plant with a capacity of 15 MGD return to operation
- 1976: Valley was upgraded and expanded to a 35 MGD second-stage sewage treatment plant doubling the plant's capacity

- 1984: constructed and installed a sludge dewatering building containing belt filter presses dewater primary and waste activated sludge generated in the plant
- 1984: expanded to handle a dry weather flow of 65 MGD and a wet weather flow of 130 MGD
- 1996: A Consent Decree deadline was set for improvements to be completed by 2005 in the amount of \$256.6 million to upgraded to a dry weather flow of 85 MGD and a wet weather flow of 170 MGD and added a surge flow basin with a capacity of 110 MG
- 2017 (ongoing): constructing a plant optimization phase to make the facility more efficient by converting from a two-stage activated sludge process to a single stage process, which should provide significant operational savings

Valley Creek is the largest Water Reclamation Facility in Alabama. The facility currently operates as a 24 hour, year round facility that serves the communities of service the Bessemer, Brighton, Hoover, Hueytown, Irondale, Lipscomb, Midfield, Mountain Brook, and Vestavia Hills areas of Jefferson County. This facility's generator sets are some of the best in the industry, and its generator system is among the largest in the state.

- Grade IV Facility
- Permitted flow 85 MGD
- 1424 miles of sewer lines
- 37 employees including:
 - 5 – Grade IV Certified Operators
 - 1 – Grade III Certified Operator
 - 5 – Grade II Certified Operators

Major Concerns:

- Aging work force
 - Average age of employees 51 years old
- Aging equipment
 - Majority of equipment between 16 to 20 years old
- Understaffing
 - Operations team 23% understaffed
 - Maintenance team 56% understaffed
 - Laborer position 50% understaffed
- More Grade IV Certified employees needed
 - 33% of Grade IV Certified employees likely retired within the next 5 years
 - 60% of Grade IV Certified employees likely retired within the next 10 years